1347 This Week in Science

Editorial

1349 Ballooning Around Venus

Perspective

1351 Science: The Best and Worst of Times

Letters

1355 Shakespeare and Statistics: O. DRIVER; G. KOLATA ■ Mexican Seed Bank: D. C. JEWELL; M. SUN ■ The Dot: Alternative Notation: M. PEARL ■ Black Holes—"Ingestars"?; W. A. SHURCLIFF

News & Comment

1357 DOE's Way-Out Reactors ■ Shooting Plutonium into Space
1360 Engineering Crops to Resist Weed Killers ■ Calgene Breaks New Ground
1362 Long-Range Forecasting: Truth or Consequences
1363 McLean-AMI Agree on Joint Venture
1364 Briefing: NIH Gets a Friendly Hearing on Capitol Hill ■ Congress Likely to Halt Shrinkage in AIDS Funds ■ Fletcher Nominated as New NASA Chief ■ Formaldehyde Poses Little Risk, Study Says

Research News

1366 VEGA's 1 and 2 Visit Halley
1367 How Killer Cells Kill Their Targets
1369 Weather Balloons at Venus
1370 Testing Superposition in Quantum Mechanics ■ Delayed Choice Supports Quantum Theory

Articles

1387 Cost of Space-Based Laser Ballistic Missile Defense: G. FIELD and D. SPERGEL
1393 Rates of DNA Sequence Evolution Differ Between Taxonomic Groups: R. J. BRITTEN
1399 The 1985 Nobel Prize in Economics: P. A. SAMUELSON

Research Articles

1401 Structure of Tobacco Mosaic Virus at 3.6 Å Resolution: Implications for Assembly: K. NAMBA and G. STUBBS

Reports

1407 The VEGA Venus Balloon Experiment: R. Z. SAGDEEV, V. M. LINKIN, J. E. BLAMONT, R. A. PRESTON

VEGA Venus Balloon Experiment
Cover. Test flight in Earth's atmosphere of balloon and gondola system similar to two placed in the atmosphere of Venus in June 1985 by the VEGA spacecraft. These were the first balloons to float in the atmosphere of another planet. Gondola instruments measured in situ meteorological parameters; a world-wide network of 20 ground-based antennas monitored the Venus winds by means of radio signals transmitted by the balloons. See pages 1407–1425.

[Photo: V. M. Linkin, Space Research Institute, Moscow, U.S.S.R.; emblem: R. A. Preston, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91125]


1414 Determination of Venus Winds by Ground-Based Radio Tracking of the VEGA Balloons: R. A. Preston, C. E. Hildebrand, G. H. Purcell, Jr., J. Ellis, C. T. Stelzried, S. G. Finley, R. Z. Sagdeev, V. M. Linkin, V. V. Kerzhanovich, V. I. Altunin et al.


1420 Thermal Structure of the Venus Atmosphere in the Middle Cloud Layer: V. M. Linkin, V. V. Kerzhanovich, A. N. Lipatov, A. A. Shurupov, A. Seiff, B. Ragent, R. E. Young, A. P. Ingersoll, D. Crisp, L. S. Elson, R. A. Preston, J. E. Blamont

1422 Implications of the VEGA Balloon Results for Venus Atmospheric Dynamics: J. E. Blamont, R. E. Young, A. Seiff, B. Ragent, R. Sagdeev, V. M. Linkin, V. V. Kerzhanovich, A. P. Ingersoll, D. Crisp, L. S. Elson, R. A. Preston, G. S. Golitsyn, V. N. Ivanov

1425 Southern Hemisphere Origin of the Cretaceous Laytonville Limestone of California: J. A. Tarduno, M. McWilliams, W. V. Sliter, H. E. Cook, M. C. Blake, Jr., I. Premoli-Silva


1431 Tyr^{257} Is Phosphorylated in pp60^{src}: Implications for Regulation: J. A. Cooper, K. L. Gould, C. A. Cartwright, T. Hunter

1434 Specific DNA Probe for the Diagnosis of Plasmodium falciparum Malaria: R. H. Barker, Jr., L. SuesBSaeng, W. Rooney, G. A. AlecRim, H. V. Dourado, D. F. Wirth

1437 Two Elements in the Bovine Leukemia Virus Long Terminal Repeat That Regulate Gene Expression: D. Derse and J. W. Casey

Book Reviews

1451 Community Ecology, reviewed by R. M. May ■ Cognitive Learning and Memory in Children and Basic Processes in Memory Development, S. J. Ceci ■ Phanerozoic Earth History of Australia, J. K. Weissel ■ Books Received

Products & Materials

1455 Mass Spectrometer ■ Pocket Calculator with Display ■ Mantles ■ Chromatography System ■ Scanning Electron Microscope ■ Personal Computer ■ Literature